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ABSTRACT

The BUILD Program (Businesses United to Increase Literacy Development) was conducted from June 1991 through December 1992 as a cooperative workplace literacy program joining Arapahoe Community College and four companies in Littleton, Colorado. During the project, staff were hired, equipment was ordered and installed, literacy task analyses were completed, and curriculum was developed for communication skills, mathematics, problem solving and computer literacy, and reading and language. Following a 5-week pilot program, four 10-week, 40-hour sessions were conducted. In addition, computer software was purchased and developed to enable students to work independently. A project manual and tutor training manuals for volunteer tutors also were developed. The program was projected to serve 200 students; a total of 269 were actually served. All four business partners were satisfied with the project and agreed to be partners for another grant proposal. An ongoing outside evaluation confirmed the effectiveness of the program. (Nineteen appendixes making up the bulk of the document include the following: a chart of task analyses, a supervisor interview and survey, company goal sheets, the rationale for adjusting computer laboratory usage, student enrollment data, quarterly reports, course outlines, scope and sequence chart, results of testing, personal job profile forms, a course evaluation form, a student survey form, interest inventory, individual education plan, participant comments, and correspondence.) (KC)

ED352558

FINAL PERFORMANCE REPORT

NATIONAL WORKPLACE LITERACY PROGRAM

BUILD PROGRAM
BUSINESSES UNITED TO INCREASE LITERACY DEVELOPMENT
MARCH, 1991 - DECEMBER, 1992

ARAPAHOE COMMUNITY COLLEGE
LITTLETON, COLORADO

JANUARY, 1993

U.S. DEPARTMENT OF EDUCATION
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PROJECT OVERVIEW

The BUILD project began in June, 1991; the project actually began operating in July with the hiring of the project director. During the next 90 days project staff was hired, equipment ordered and installed, literacy task analyses completed, and curriculum developed. A five-week Pilot Project was launched in October which provided valuable information for the regular class sessions which began in January, 1992.

Four, ten-week sessions were conducted during the course of the project. The projected number of students to be served was 200; the project served a total of 269. Students studied English as a second language (ESL), and workplace learning skills. The "new basic skills" as described by Anthony P. Carnevale were combined with competencies identified by CASAS (Comprehensive Adult Student Assessment System) to develop a functional context curriculum able to be adapted to meet the specific needs of each of the four manufacturing business partners. (Refer to Appendix C)

All four business partners have expressed their satisfaction with the project; all confirmed their satisfaction by signing up to again be partners with Arapahoe Community College (ACC) for another NWPL grant for 1993. ACC also confirmed their continued support of this project by submitting this proposal.

This report will compare the accomplishments of the project with the objectives and activities as stated in the accepted grant application.

COMPARISON OF ACCOMPLISHMENTS TO OBJECTIVES

The attainment of project objectives is addressed in the external evaluation report. This report will provide a detailed review of the activities originally outlined for each of the seven project objectives. A discussion of adusted time lines is provided in the next section of this report.

Objective 1: By May, 1991, to have performed and documented four workplace literacy audits for four different companies.

Activities identified to achieve this objective were successfully completed by project instructors with the assistance of training department staff from each company. 37 literacy task analyses were conducted (Refer to Appendix A). Instructors observed Subject Matter Experts (SME's) who had been identified by the companies, interviewed the SME's and their supervisors, and collected all written material germaine to the audited jobs. Instructors then identified the basic skill competencies employees needed to successfully complete their job tasks. Finally, CASAS levels in reading and math were determined by the instructors for each of the jobs analyzed.

Once enrolled in the class, employee skills were assessed with Job Profiles and competency-based standardized tests in reading and math from CASAS (Comprehensive Adult Student Assessment System). The results of the standardized tests indicated skill levels. The Job Profiles, completed by both employees and supervisors, provided a self-assessment of skills on the job as well as supervisor perceptions of employee skills on the job. Later in the program, supervisors were interviewed by the instructors and completed comprehensive surveys to confirm that employee and company needs were being met. (Refer to Appedix B).

The instructors did not build tests to ask questions relating specifically to the employees' job or job group. The relationship between skills taught and employees' jobs was clear in the curriculum, in the materials utilized, and in all class discussions. The most appropriate "test" was considered to be the direct evaluative input of supervisors and employees. This information was gathered as part of the external evaluation project and is discussed in that report. Those results indicate that, in the vast majority of cases, both employees and supervisors were able to see changes in skills or attitudes on the job, thus indicating that employees understood the relationship between instruction and work. Employee self-assessment of skill improvement was also gathered on the Personal Job Profiles adapted from CASAS. (Refer to Appendix K)

Objective 2: **By June, 1991, to have established written goals for each of the four companies participating in the workplace literacy project.**

Group interviews were held with company supervisors and training department personnel to determine goals, expectations, and indicators of success for this project. (Refer to Appendix C) Monthly "Partners Meetings" (Advisory Council) addressed the issues of workplace needs and anticipated results for the companies and their employees. The overriding goal was to develop a flexible, adaptable workforce capable of learning in order to keep up with the changes in the workplace.

The program was advertised within each company and employees signed up on a voluntary basis. There were always waiting lists at three of the four companies. Employees were selected for classes by the training department personnel; criteria for selection varied from company to company but always included degree of need and supervisor input.

Objective 3: **By June, 1991, to have designed a comprehensive workplace literacy program.**

Equipment, software, and print materials were purchased for the program and distributed to the companies and ACC's learning center. The success of the learning center at ACC was questionable and adjustments were made during the course of the grant. (Refer to Appendix D) Curriculum modules were developed by the instructors in three areas found to be of need: reading and language, computation, and communication. Instructional materials were developed for both basic skill students and ESL students. Additional materials were developed to orient students to computers and facilitate student utilization of educational software.

Again, no performance-based assessments were developed as the true "test" of skill application and attainment was viewed as being supervisor observation and employee self-assessment of skills as utilized on the job. (See Objective 1) These were measured by the external evaluator. Employee self-assessment was also measured by the Personal Job Profile Forms adapted from CASAS. (Refer to Appendix H).

The project director was responsible for compiling data from records kept by instructors. This information was shared with the partners in the form of Student Enrollment Data reports; they also received copies of the Quarterly Reports sunbmitted to the Department of Education at the end of each class session.

Objective 4: **By January, 1992, to have developed a training manual for this workplace literacy project.**

A comprehensive manual was compiled by the project director that

includes copies of documents utilized throughout the project to meet project objectives. Processes and procedures were documented that should prove helpful in the implementation of future workplace education programs. Sample forms of instruments utilized to provide evidence of training occuring according to project and company objectives are contained in this report. (Refer to Appendices K, L, M.) Results of CASAS and BEST tests are also provided. (Refer to Appendices I,J)

Objective 5: **By June, 1991, to have conducted a two day workshop or workshops on workplace literacy issues for the CEO's, senior level executives, managers and/or supervisors of the companies and partners participating in the workplace literacy project.**

A luncheon was held in June of 1992 for the CEO's and trainers of the four companies, as well as for ACC administration and interested community leaders. The City of Littleton did a presentation on the re-training of workers worldwide. See also "CEO Workshops" under Special Considerations section that follows.

This luncheon concept was developed jointly with the business partners during the monthly meetings. It was determined that the CEO's be asked to present at the luncheon; they were asked to address three specific questions related to the corporate impact of this project. They agreed to be videotaped and their comments were included on a promotional/recruitment tape produced by the college for each of the companies. (A copy of this tape has been sent to the Washington D.C. office.) As evidenced by the tape, their comments were extremely favorable and indicated significant employee and corporate impact. This assured that awareness of the success of this project was heightened at senior management levels.

Additionally, several group meetings were held with supervisors throughout the grant during which project staff received feedback on the effectiveness of the project and during which supervisors became more aware of the global aspects of the need for workplace education. Business partners also discussed and received relevant information and resources from the project director at the monthly partners meetings.

Objective 6: **From June, 1991 through June, 1992, to train a minimum of 250 workers in workplace literacy skills.**

During initial negotiations between ACC and Washington, the number of employees to be trained was reduced to 200. At the end of three, ten-week sessions, the project had enrolled 209 employees. Upon completion of the fourth session, 269 employees had been trained. Each of the sessions provided 40 hours of instruction; two, two-hour classes per week were offered for ten weeks. Employees were recruited by the companies utilizing suggestions of ACC instructional staff. Supervisors were requested to observe employees and to encourage those who they felt could benefit from

basic skill or ESL instruction to enroll in the program. Notices in paychecks, newsletter articles, flyers, and word-of-mouth were all used. Employees who signed up for the classes were voluntary. A survey was conducted with each class to ensure that this was always the case. (Refer to Appendix M)

Two videotapes were produced by the college for companies to use for purposes of promotion and recruitment. Students and supervisors were interviewed at each of the companies; the second version of the tape included comments from senior management made at the CEO luncheon. (See Objective 5). Tapes to orient students to computers were not produced; self-paced modules were designed as being more appropriate to student need. (See Special Considerations "Curriculum") Students and computers **were** shown in the tapes produced, however, to familiarize new and potential students.

Statements of confidentiality were signed by all the companies. This helped assure students that their work in the classroom would not jeopardize their work status within the company. Employees knew that their supervisors granted them paid release time to attend classes which communicated their support of the program. All employees at all four companies received full paid release time to attend classes.

Classroom instruction was provided for 40 hours during each ten-week session. Additionally, computer learning labs were set up to enable employees to study on their own time and at their own pace. Each employee also attended an assessment session prior to the class during which time students completed the Personal Job Profile form adapted from CASAS. The CASAS ECS tests for reading and math were administered at that time as well. Instructors also reviewed the proposed course content to be sure the employee knew what to expect from the classes; employees were free to decide not to attend classes at that time if they so desired. Employees also completed Interest Inventories (Appendix N) and began their Individualized Education Plans (IEP's). (Appendix O) The instructors completed the plans for each student for individualized instruction within each class dependent upon student skill levels and interests.

Instructors worked closely with training department personnel to determine the presence of learning disabilities. Two employees were identified at one company. The grant made it possible for them to be diagnosed and referred for specialized instruction and therapy.

Objective 7: **By July, 1992 to provide a comprehensive document evaluating the effectiveness of the program for both employees and companies.**

The external evaluator has assisted the program since its inception. The evaluator reviewed the literacy audit process to

ensure it provided an appropriate and useable format for proper evaluation.

A survey was developed by the external evaluator and distributed at the end of each class session to both students and supervisors that indicated the degree of impact of the program on employee skills and job performance.

Samples of instruments utilized internally by the program for pre and post information gathering are included in this report. (Refer to Appendices K, L, M) Skill levels were assessed with standardized instruments: CASAS ECS tests for basic skills and BEST tests for ESL. (Refer to results provided in Appendices I, J).

The "Evaluation Plan" has been followed as outlined in the accepted application. The final report will be completed at the end of the project.

Special Considerations

Special consideration was given to certain instructional and programmatic decisions. Several of these decisions slightly altered the form, but not the intent, of several original activities. The rationale for each of these decisions follows.

Computerized Instruction The original plan was to purchase a large, integrated learning system, CCC, Computer Curriculum Corporation. For a number of reasons it was decided to not purchase this system. In recent years, a plethora of software has been developed for ESL and for general basic skills programs. These software programs allow for greater flexibility, or "user friendliness" than does CCC. They also increase the degree of responsibility the student has for his/her own leaning; students are able to make more choices over what, how, and at what pace they want to learn. There is more "tutorial" or instructional material in these newer programs than with CCC. Plus, they are easier to "get into", "move around in", and "get out of" than CCC. Management programs are as acceptable or even preferable to CCC.

Over the past year, the need for materials and instruction in the functional context of the job has been highly documented. Thus, this program has focused in on authoring software that would allow us to create our own customized materials for skills instruction as applied to specific jobs. It was deemed important to allocate funds for this effort.

In summary, the funds provided for puchasing CCC have been utilized to purchase software that allows for customization of instruction, is newly developed thus utilizing the most up-to-date software programing knowledge available, supports principles of adult learning, provides for greater variety of instruction to meet different preferences of students, and has been tried and proven in other workplace literacy programs throughout the country.

The decision to not purchase CCC also enabled us to purchase print materials that were relevant to instruction and, in fact, essential to instruction. Following principles of adult learning, it is important to provide variety in learning materials to match the variety of learning styles of adult students. Some students felt much more comfortable with textbooks and needed them in addition to instructor handouts and to time on the computer.

Classroom Instruction The program was also designed to provide more class time than was originally planned. This was deemed necessary and proved to be extremely successful. Employees are being asked to work together in teams so it made sense that they should receive an opportunity to practice these skills in a "team" setting within the classroom. This enabled the instructors to supervise employee tutors and volunteer tutors from the community as they assisted in the classroom.

Curriculum The original grant application also identified **self-paced modules** as one of the grant "products". The instructors have spent an incredible amount of time in developing curriculum modules for each content area: reading and language, computation, and communication. An orientation manual for the computers was developed as well. Each instructor also developed a specialty area for which they developed a module: problem solving and meeting facilitation. Each of these modules contains an overview of the module, directions for instructors, and instructional materials for students to work on independently at their own pace. Seven complete sets of these modules were reproduced. Each company and ACC will receive a set of these modules. A set has also been delivered to the regional curriculum coordination center and to the NWPL office in Washington.

The original wording in the application indicated that 200 copies of these modules would be produced with federal funds. It was not necessary to produce this many copies of the curriculum modules themselves. The instructors did, however, make copies of selected instructional materials for each of the students. The number of copies required exceeded other funds allocated for copying. Which materials were reproduced depended on student need and skill levels and varied from class session to class session. In summary, the instructional materials from the modules were copied for the students throughout the duration of the grant, but only seven copies of the complete, comphrehensive modules were produced.

Manuals Employees in the companies were also trained to be tutors. A **Train the Trainer Manual** was developed by the project director and has also been disseminated to the companies, ACC, and to the NWPL office and the regional curriculum center.

The **Training Manual** (or **Operations Manual**) developed by the project director provides recommended processes and procedures, instruments, documents, and materials required to implement a

workplace education program. The **Evaluation Report** compiled by the external evaluator assisted by the project director, provides a record of the successes and failures of the project along with recommendations for others wishing to implement a workplace education program. These have also been copied for the companies, ACC, and required centers.

Again, the original wording of the grant application indicated that 50 copies of the Training Manual would be produced. As with the curriculum modules, seven have been produced and this is seen as commensurate with the need. Various materials from this manual have been copied, however, throughout the duration of this grant and used at conferences, meetings, and other presentations as part of the dissemination process. And the Train the Trainer manual is seen as an adjunct to this program Training Manual; this also required copies of materials for training sessions and for the final seven copies of this module. In summary, just as with the curriculum modules, materials from these manuals were reproduced throughout the project, but only seven copies of the final comprehensive manuals were produced.

It is hoped that all of these products have provided the necessary background and tools with which to start or continue a workplace education program.

Competition Two of the companies in this project are international competitors. Although this should provide an interesting aspect to the project, nothing extraordinary resulted from this relationship. The training personnel with whom we worked were both focused on the success of this project and on their employees improving their skills. There was only good-natured bantering indicative of a long-standing professional rivalry that took place at the monthly Partners Meetings (Advisory Council).

The instructors never discussed what was going on at one company at the other company. Actuallu, however, this made little difference: a significant number of employees at one company had a spouse or other relative working at the other company, or the employees themselves had already worked at the other company at some time in their careers. Everyone knew what was going on anyway!

CEO Workshops Support for the program was sufficiently strong at the beginning of the grant to allow us to proceed without a start-up workshop for CEO's. After initial discussions, it was determined that workshops for CEO's and managers should be used to maintain corporate support and that this could best be accomplished if specific results of the project were available to be presented. For this reason it was decided to wait until the program had been in operation long enough to have produced results that would be of interest to company management. Additionally, it was decided by the partners that one workshop for CEO's and managment of all the companies would be preferable to individual workshops held at each

of the companies. The luncheon was held in June 1992 rather than June of 1991.

Tutors No tutors were hired for this program. Volunteer tutors recruited from the community were utilized as were company employees who volunteered their assistance. The funds allocated for tutors were utilized to increase instructor hours to more realistically provide for their investment of time in this program.

Consulting Consulting services from the City of Littleton were limited to three days. They were helpful and supportive and participated in the CEO luncheon, but their services were not needed for the full five days originally stipulated in the grant. They provided important information services and in-service training. The Project Director also provided training for one of their meetings, indicating a cooperative relationship between the two offices was established.

There was no direct connection made with the Center for the New West. Repeated attempts were made through the City of Littleton, which was the original contact, yet nothing was able to be firmed up. One meeting was held at which the director of the Center for the New West was in attendance and he did receive an update on the progress of this project at that time. They were thus at least aware of the national and local scope and impact of workplace literacy.

Continuation All of the four business partners wanted to be able to continue the program by integrating it into their regular triaining offerings. One company has just been sold and the other is under constant threat of being put out of business by the FDA. These two partners are financially unable to continue these classes. The remaining two companies, the international competitors, have both made attempts to continue these classes. These plans are currently on hold, but they are not forgotten. The project staff have made all possible efforts to assist in the continuation of the programs and the interest is there: it is now up to Clinton and the economy.

As mentioned earlier, all four companies did agree to participate in a new grant if it had been funded; this still shows a significant level of financial support in both in-kind and cash match.

Other Comments Refer to Appendix P for comments provided to the 1992 National Literacy Project Directors' Close-out Conference Survey.

Refer also to Appendices Q, R, and S for comments provided by a program participant and for two letters of support from two of the business partners.

TIME LINES

The following schedules and time lines evidence the progression of program activities. The original grant time line was altered as has been described in previous communications with the NWPL Program Officer and Grants Officer. The project began 90 days after the originally intended date; adjustments were made accordingly.

The **1992 Schedule of classes** is accurate and reflects the program structure: ten-week sessions of classroom instruction, each preceeded by a week of assessment and pre-registration during which time intake interviews were held and IEP's developed.

During the fall of 1991, a five-week **Pilot Project** was conducted. The results were evaluated and curriculum and schedules adjusted accordingly.

The content and timing of the **CEO workshops** were slightly altered as discussed under Objective 5 and under "Special Considerations" of Section II. The timing of the event was adjusted from June, 1991 to June, 1992.

TIME LINE*
May 1991 - November 1992

MAY 1991

DONE	TASK
____	Notification of funding received via FAX dated 4-23-91
____	Attend Start-up Conference in Washington D.C. (Sally Conway-Griffen)
____	Start Interview Process for Coordinator

JULY 1991

DONE	TASK
____	Hire instructors. (7-29-91)
____	Meet with companies
____	Coordinate with CDE**(Colorado Department of Education)
____	Research and development
____	Coordinator starts 7-1-91

* Compiled from Staff Planning; "Staff Development and Dissemination Plan"; 3-1-91 memo to companies; 3-14-91 Meeting of Task Force; Programmatic Concerns from D.C.

** Refer to "Staff Development and Dissemination Plan."

AUGUST 1991

DONE	TASK
____	Introduce program to company management
____	Introduce program to company employees
____	Job analyses (5-91) ("Audits")
____	Hire Administrative Clerk (secretary)
____	Order hardware (6-91)
____	Order software/texts (6-91)
____	Bid for External Evaluator
____	In-service staff training (Computers and Software; Conducting Job Analyses)
____	System for reporting in-kind by companies and ACC
____	Complete data gathering phase for curriculum development
____	Develop "Executive Summary of Philosophy & Goals"

SEPTEMBER 1991

DONE	TASK
____	Internal publicity in companies
____	Written goals for each company (6-91)
____	Order software and texts (6-91)
____	Assessments for material development (CLOZE/BEST)
____	Install hardware at companies & ACC
____	Install and use software (staff to become familiar with programs)
____	External publicity Part I: Print Media
____	In-service staff training: Dudley Tickton with Coordinator
____	Hire external evaluator (refer to Objectives & Evaluation methods)
____	In-Kind budgets from companies: reconciled to proposal

____ Begin Training Manual - Evaluation Report (see 7-92)**

____ Meet with ACC Developmental Education staff

____ Complete material development for Pilot Project

____ Complete assessment development for Pilot Project

____ Establish Employee Representative Committee.

OCTOBER 1991

DONE	TASK
____	Designed: A "Comprehensive WPL Program" (6/91)
____	Workshops with CEO's (6/91) **Plan to be revised...** (See 6/92)
____	5-week pilot project begins 10/14/91

NOVEMBER 1991

DONE	TASK
____	Pilot project ends 11/14/91
____	Evaluate how to best utilize tutors in each company

DECEMBER 1991

DONE	TASK
____	Submit first Quarterly Report (from 11/91)
____	Evaluation of pilot program
____	Compilation of all needs assessment data
____	Develop curriculum, materials and assessments for 10-week course in January.
____	Design Pre-registration Process for January - Revise IEP process

JANUARY 1992

DONE	TASK
____	Self-Paced Training modules: Continue Development
____	Plan for presentation at AAACE and other conferences
____	Contract for L.D. Services with ACC as needed
____	Video Tape - 20 hours x $100/hr = $2,000 (Federal money) - To intro students to training, to use of computers, to software and to provide motivation to complete IEP's - Shown to CEO's during CEO Workshop
____	Begin: External Publicity Part II: Speaking engagements. Coordinate efforts with business P.R. departments; involve company representatives and students
____	Begin first 10-week session.
____	Complete Curriculum development/instructional design for Pilot Project
____	Hire tutors (from 10/91). Decided on volunteer tutors and tutors from companies.

FEBRUARY 1992

DONE	TASK
____	Consulting from City of Littleton
____	Consulting from Center for the New West

MARCH 1992

DONE	TASK
____	Submit Quarterly Report to Washington D.C.
____	Evaluate 1st 10-week session
____	Begin Session II (3-30)

JUNE 1992

DONE	TASK
____	Submit Quarterly Report to Washington D.C.
____	Conduct Workshop for CEO's and Mid-Managers
____	Evaluate Session II
____	Begin Session III (6-15)
____	Begin planning for Final Report

AUGUST 1992

DONE	TASK
____	Evaluate Session III
____	200 workers trained

SEPTEMBER 1992

DONE	TASK
____	Begin Session IV.
____	Attend Close-out Conference in Washington

NOVEMBER 1992

DONE	TASK
____	Evaluate Session IV.
____	Attend AAACE Conference
____	Submit Quarterly Report to Washington
____	At 90-days after end of grant period: Evaluation report due to D.C.

Workplace Education Program
1992 Schedule

SESSION DATES

SESSION I: PRE-REGISTRATION: PREP WEEK JANUARY 6-10

* SESSION I: JANUARY 13-MARCH 20

SESSION II: PRE-REGISTRATION: PREP WEEK MARCH 23-27

* SESSION II: MARCH 30-JUNE 5

SESSION III: PRE-REGISTRATION: PREP WEEK JUNE 15-19

* SESSION III: JUNE 22-AUGUST 28

SESSION IV: PRE-REGISTRATION: PREP WEEK SEPTEMBER 8-11

* SESSION IV: SEPTEMBER 14-NOVEMBER 20

PARTICIPANT DATA AND ACHIEVEMENTS

At the end of each class session, a summary of student enrollment data was compiled. A copy of each of these reports is included in Appendix E; a copy was also submitted with each Quarterly Report. A copy of the Quarterly Reports is also included here in Appendix F. Both of these reports attest to the appropriateness of the student population served by this grant.

Results of the assessments used in the program - the BEST test for ESL students and the CASAS ECS tests for math and reading (Refer to Appendix G) indicated a majority of skill levels below the level determined to be appropriate for GED preparation in Colorado. Student scores (without names) for each class session are provided as evidence of student achievement.

An exciting development is the transition of students from one area of instruction to another. During this fourth class session, three ESL students are studying for their GED's and five of them have moved into basic skills classes.

Two of the students were honored by the Colorado Association of Continuing Adult Education (CACAE) this year. One, an ESL student now studying for his GED, received the Outstanding Adult Learner Award for the entire state of Colorado. Another literacy student from the program received an honor roll adult learner award.

DISSEMINATION ACTIVITIES

The project director was active in disseminating information on the national workplace literacy program as well as on the local project. Articles were printed in numerous newsletters of professional associations and in business magazines of local chambers of commerce.

Presentations were made at several meetings and conferences including the following: local chapter of the American Society for Training and Development; annual statewide conference of the Colorado Association for Continuing Adult Education; annual regional conference of the Mountain Plains Adult Education Association (joint presentation with project director from Utah); the annual meeting of the Adult Literacy and Technology Conference; and the annual conference of AAACE.

Numerous presentations were also made at ACC staff meetings and to employees and supervisors at the companies.

The dissemination of project products has been completed according to the requirements of the National Workplace Literacy Program.

EVALUATION ACTIVITIES

The impact of the program on employees and on the company has been closely monitored throughout the project. Curriculum content, scheduling, and company needs were all discussed at the monthly Partners Meetings. These meetings, referred to as Advisory Council meetings in the grant, provided the vehicle for formative evaluation by those involved in the project. These percptions were augmented by the external evaluator.

The external evaluator has outlined his activities in his report; he did meet with project staff throughout the project and developed an excellent understanding of how the grant had been conducted.

In addition, the instructors distributed course evaluation forms at the end of each class session. (Refer to Appendix L) Because of their bulk, copies of each of these reports are being provided with this Final Report to the NWPL office in Washington only. The number of students expressing an interest in continuing their education on these course evaluation forms is indicative of the success of this project.

KEY PERSONNEL CHANGES

In the original grant application, two ACC staff members were identified as co-executive directors. By the time the grant had started, one of these individuals had already left the college. It was her replacement who functioned as the executive director for the project. Shortly after the project began, the second originally identified co-executive director left the college. This individual did provide some valuable transition information. The result was only one executive director for the project who was supported by her supervisor. These positions provided a portion of the in-kind support from ACC.

One of the two instructors originally hired in July, 1991, left the program at the end of the Pilot Project in November. A replacement instructor started immediately and there was no lapse in services.

APPENDICES

APPENDIX A

JOB ANALYSIS

(First Round)

COMPANY	JOB	NAME	DATE	CASAS SKILL LEVEL R	M
WILKERSON	Plastics Lead		8-12-91	C	C
	Machinist		8-8-91	C	C
	Assembler		8-8-91	C	B
	Refrigeration		8-12-91	D	C
	CRP (Weld Shop)		9-10-91	C	D
	Tool & Die		9-10-91	D	C
	Tool & Die		9-10-91	C	C
NORGREN	Machinist (North)		8-13-91	C	C
	Build/Test		8-13-91	C	C
	Machinist (South)		8-13-91	C	C
	Plastics Lead		9-3-91	D	C
	Foundry Lead		9-3-91	C	C
METRUM	Staging		8-21-91	C	B
	Auto Pull		8-21-91	C	C
	Axial Pull		8-21-91	C	B
	Universal		8-21-91	C	B
	Assembly/ Power Supply		8-22-91	C	B
	Assembly		8-22-91	C	B
MARQUEST	QC		8-8-91	C	B
	Respirator Circ. Ld.		8-8-91	B	B
	(Assembler III)		8-26-91	B	B
	Mold Room Lead		8-26-91	C	B
	ABG		8-26-91	B	B

JOB ANALYSIS

(Second Round)

COMPANY	JOB	NAME	DATE	CASAS SKILL LEVEL R	M
WILKERSON	Machine Shop		12/5/91	C	C
	Refrigeration/ Team Leader		12/5/91	D	C
	Stockroom		12/5/91	B	B
	Shipping/ Receiving		12/5/91	C	C
	Assembly Lead		12/5/91	C	B
NORGREN	Plastics Sup.		12/5/91	D	C
	Machinist III		12/5/91	C	C
	Foundry		12/5/91	C	C
	Machinist IV		12/5/91	C	C
	Plastics Sup.		12/5-6/91	D	C
	Metal Finishing		12/5-6	B	C
METRUM	Assembly		12/19/91	C	B
	Assembly		12/7/91	C	B
	Stager		12/7/91	C	B

APPENDIX J

BEST TEST - ORAL

MARQUEST

FALL SESSION
"1992"
ESL MARK

STUDENT NAME	PRE SCORE	PRE LEVEL	POST SCORE	POST LEVEL
	37	III	41	IV
	36	III	44	IV
	36	III	57	V
	47	IV	59	V
	38	III	50	IV+
	34	III	37	III
	20	II	36	III
	61	V+	61	V+
	27	II+	28	III
	36	III	37	III
	28	III	36	III
	20	II	22	II

11 out of 12 - (91%) Increased their scores.
01 OUT OF 12 Stayed equal.

* (NOTE: The only student who did not show an increased score stayed at exactly the same score - no decrease. Note also that this student had the lowest attendance record as he was frequently too busy.)

BEST COPY AVAILABLE

BEST PRE & POST TEST RESULTS

MARQUEST
FALL SESSION
"1992"
ESL JENNIFE

Fix
-Tall
Res Pep

STUDENT NAMES	PRE SCORE - LEVEL			
	40	III	N/A LAY-OFF	
	49	IV	64	VI
	28	III	N/A LAY-OFF	
	37	III	26	III
	38	III	47	IV
	53	V	N/A DROPPED	
	34	III	N/A DROPPED	
	13	I+	N/A LAY-OFF	
	41	IV	53	V
	24	II	N/A DROPPED	
	21	II+	41	IV
	24	II	37	III

5 out of 12 Increased Score.

* (NOTE: Only 1 student that completed the tests received a lower score, and 6 (over half the class) were either laid-off or dropped out.)

ARAPAHOE COMMUNITY COLLEGE
WORKPLACE EDUCATION PROGRAM

SUPERVISOR SURVEY

Please rate the following tasks on a scale of 1 - 5. Scale A is rating the task in terms of its importance to the job. Scale B applies to how well you feel your employees perform these tasks.

Scale A

1	2	3	4	5
Not Important		Moderately Important		Very Important/ Critical Task

Scale B

1	2	3	4	5
Does not Meet Expectations		Meets Expectations		Exceeds Expectations

Supervisors' Survey

	SCALE A	SCALE B
I. Reading and Language		
Willingness to write information/comments on logs or forms	_____	_____
Spelling	_____	_____
Grammar	_____	_____
Punctuation	_____	_____
Writing numbers on log/SPC sheets	_____	_____
Organizing information	_____	_____
Transferring information	_____	_____
Printing legibly	_____	_____
Summarizing information	_____	_____
Understanding and using abbreviations and symbols	_____	_____
Writing reports (DR/ECR/AVO/ETC)	_____	_____
Following written directions	_____	_____
Understanding written materials	_____	_____
Getting information from manuals	_____	_____
Understanding written symbols/signs/labels	_____	_____
II. Communication		
Using appropriate language with supervisors and peers	_____	_____
Facilitating meetings	_____	_____
Participating in meetings	_____	_____
Giving a job performance appraisal	_____	_____
Giving and receiving criticism and praise	_____	_____

	SCALE A	SCALE B
Managing conflict in small groups/teams	_____	_____
Giving directions	_____	_____
Following directions	_____	_____
Asking and answering questions	_____	_____
Using appropriate workplace vocabulary (ESL)	_____	_____
Coaching and modeling	_____	_____
Cross training	_____	_____

III. <u>Computation</u>

Addition/subtraction/multiplication/division	_____	_____
Fractions	_____	_____
Decimals	_____	_____
Percents	_____	_____
Matching numbers	_____	_____
Compare and contrast weights and measures	_____	_____
Averages	_____	_____
Ranges	_____	_____
Graphs and charts (reading and understanding)	_____	_____
Plotting graphs on forms (e.g. SPC charts)	_____	_____
Estimating	_____	_____
Identifying math symbols on a calculator	_____	_____

IV. <u>Creative/Critical Thinking</u>

Solving problems	_____	_____
Brainstorming solutions to problems	_____	_____
Finding information	_____	_____

	SCALE A	SCALE B
Identifying and selecting problems	_____	_____
Analyzing problems	_____	_____
Generating potential solutions	_____	_____
Selecting and planning solutions	_____	_____
Implementing solutions	_____	_____
Evaluating solutions	_____	_____
Active listening	_____	_____
Predicting outcomes (cause/effect)	_____	_____
Prioritizing responsibilities	_____	_____
Goal setting: personal	_____	_____
Goal setting: production	_____	_____

APPENDIX B

SUPERVISORS' INTERVIEW

1.) What forms or written materials do or will employees need to read and fill out?

2.) On which of these forms do you find the most errors are made? Why?

3.) How would you measure your employees' improvement in reading and language?

4.) What communication skills do or will your employees need to effectively preform their current jobs or those in the future? Why?

5.) Which of these skills is a problem now? Are the employees having difficulties communication, in certain cases, in your department?

6.) How will you measure your employees' improvement in communication?

7.) What forms require or will require your employees to perform math?

8.) What math skills are or will be needed? (eg. graphs, charts...)

9.) How will you measure the employees' improvement in this area?

10.) In your opinion, what are characteristics of a good employee? Why?

11.) What do you want employees to do when they have questions or problems?

12.) What are the most crucial changes taking place in the near future for you and your employees? What skills will be needed to facilitate these changes?

GOALS, EXPECTATIONS, AND MEASUREMENTS OF SUCCESS

MARQUEST

1) Reading, writing, computation and comprehension at the high school level.

2) Able and willing to give written communication.

3) More able to get through work orders themselves without saying "I can't find it."

4) Measurement: how well they do on tests that will be included in the new wage and salary compensation package being developed.

5) Management has information they need to make these tests; to determine what it takes to go from one level to another. This program will help them determine these.

6) Use CASAS Job Profiles as measurement.

7) See application of skills learned.

8) Ability to communicate with other people in a civilized manner.

9) "To be more literate and speak English."

10) To be able to understand guidelines communicated to them.

11) To be able to read documentation.

12) Training programs are effective because employees can read and write.

13) Test them to find out what they can do.

14) "Big Goal" - to have employees request clarification! They always say they understand, but they don't.

15) Leads and Supervisors to understand concept of O.I.'s and S.O.P.'s - at least to teach.

16) Coaching and modeling become more important if Leads are the target population (my opinion). So, application practice should include teaching of others.

Consensus that "seemed" to be reached: Instruct Leads, as, in the long run, this is the best answer. They will be able to teach others. Plus, turn over is lower among Leads. This should ensure benefits of program will continue beyond the program's funded period.

GOALS, EXPECTATIONS, AND MEASUREMENTS OF SUCCESS

METRUM

1) Ability to communicate meaning (written)
for example: on Personal Action Plan

2) To hear employees give positive feedback, e.g. "Boy, that sure is a neat program!"

3) Increase willingness to "try to dig in and make things better."

4) Willingness to ask question; to suggest improvements. (This in combination with "cultural changing" the company is doing. Point is, company has to reinforce that it's safe to question and suggest).

5) Increased confidence

6) Ability to be trained (work with Gena)

7) Self-management skills

8) Flexible: ability to do different jobs.

9) Reduce learning curve: to go from one task to another by improving learning skills.

Note: Refer to Metrum's "Mission" folder and goals, objectives and strategies (in particular) for Human Resources.

Overall goal for Human Resources: "Develop and realize the full potential of a diverse work force and maintain an environment conducive to full participation, quality, leadership and personal and organizational growth.

GOALS, EXPECTATIONS, AND MEASUREMENTS OF SUCCESS

WILKERSON

1) Improvement in oral communication, particularly due to increase in self-confidence. Hope: with increased confidence, would ask more questions.

2) Teamwork and leadership: better understanding of how teams work.

3) Workers do not have to depend on others: will figure things out for themselves.

4) Interpersonal skills improved.

5) Improved oral and written communication: to be able to put thoughts into words.

6) Hopefully, people will feel better about themselves, will feel of more value to the company and will, in reality, become more valuable to the company.

APPENDIX C

GOALS, EXPECTATIONS AND MEASUREMENTS OF SUCCESS

NORGREN

1) Employees feel more secure in their job duties; more self confident.

2) Employees will ask questions.

3) For those on the job 25 years - probably no improvement seen.

4) Improved comprehension of job duties - of written and oral instructions.

5) Development of trouble-shooting skills: think logically; break down a process vs. jumping to conclusions. (Related to #1)

6) Greater independence; depend less on peers.

7) Understanding "How Norgren ticks", e.g. support systems; being able to find out how to get something accomplished.

8) Empowerment of employees (see #7)

9) Self management skills. (Related to one supervisor retiring next year who will not be replaced. His duties will be divided among current employees.)

10) Team Leaders/Development of leadership skills.

11) Identification of specific education levels required for performance of jobs analyzed for this program.

12) Increased enrollment and/or longer waiting lists for other training classes offered by the company. (Refer to #4 of attached memo of September 16 to Brian Bristol from Rick Fish)

13) Measurable training for each participant through establishment of individual benefits. (See Fish memo)

Note: Long-time employees are resisting doing more that they have been asked to do in the past. The big difference is now they are being held responsible for the quality of their work.

Overall Goal: To improve employees' abilities to do their jobs with less supervision.

APPENDIX D

RATIONALE FOR ADJUSTING COMPUTER LAB USAGE AT ACC

Two computers have been available for student use at ACC, Room M462, since the Pilot Project began in October, 1991. A lab tutor (Greg Morris) was hired by the WEP program to be available for students on Saturday mornings. He was also an ACC employee for the lab and was available evenings as well. During the Pilot Project, no students used the lab.

During the Winter and Spring sessions "field trips" were held for each of the companies at which time all students came to the ACC Lab and worked on the computers. They were introduced to Greg, the lab tutor. The hope was that once students were familiar with where the computers were located they would feel more comfortable in coming to use them. Perhaps a maximum of six students came to the lab; at least three were from Wilkerson and one from Norgren. To our knowledge no one came from Metrum or Marquest.

It was originally thought that students would come in during the evenings or Saturday mornings. Feedback obtained from students indicated that if they chose to study outside of work hours, they would be more likely to just use the computers on-site at each of their companies. There seemed to be no need for the anonymity that the ACC Lab offered. Child care and other adult responsibilities just greatly interfered with the students' abilities to study at any other times than during regular work hours.

During the Spring session, however, the Norgren ESL class was held once a week at the ACC Lab. This turned out to be enormously successful. Students have an opportunity to use the computers in a comfortable space and they were exposed to and became more comfortable with ACC. As a result, several students have decided to continue their education at ACC - either in GED classes or in other college courses. (Note: The original reason the class had been scheduled at ACC was to avoid a conflict in the use of the computers at Norgren. Both the ESL and WLS classes were, of necessity, scheduled at the same time, thus leaving two classes wanting to work on the computers simultaneously which was an impossible situation.)

The recommendations that have resulted from our seven-month experience with WEP students attending - or not attending the ACC Lab are as follows:

- Discontinue having the Lab open on Saturday mornings.
- Let students know when the Lab is open normally, i.e. during regular ACC hours.

- Expand the number of classes held at the ACC Lab. The class at Norgren could be continued and the ESL class at Wilkerson could be added. (Pending approval of the companies). The classes will be limited to ESL, as they are smaller in size - the Lab could not accommodate the WLS classes - and ESL students are more in need of exposure to ACC to encourage them to continue their educations.

SUMMARY

The program will still have five computer sites with one of them being away from the companies, but it will be used in a different way. The original purposes as stated in the proposal for which the fifth site was developed have been determined to not be viable. Students do not feel the need to study more on the computers outside of class (the classes are more involved than the original concept); they do not have the time or support systems (e.g. child care) to study outside of work hours; and they feel comfortable in working on the computers on-site at their own companies. Having a structured class during work hours, however, has been successful and has enhanced the relationship between ACC and thee companies (at least two) by facilitating the referral and enrollment of students.

APPENDIX E

STUDENT ENROLLMENT DATA

SUMMARY

Fall Session: 9/14/92 -11/19/92

I. TOTALS

69 students completed Fall Session. Includes 8 repeat students: 3 repeat students at Metrum began as ESL students and are now GED students. 5 repeat students at Wilkerson began as ESL students and are now WLS students.

82 students enrolled originally

Drops: 3 Marquest
4 Norgren
6 Wilkerson

II. FOR STUDENTS WHO COMPLETED SESSION:

A. Ethnicity (69 Respondents)

White	35%	(24/69)
Black	3%	(2/69)
Hispanic	20%	(14/69)
Am. Indian/Alaska Native	1%	(1/69)
Asian/Pacific Islander	41%	(28/69)

B. Sex (69 Respondents)

Male:	52%	(36/69)
Female:	48%	(33/69)

C. Mean Age

38.95 (62 Respondents)

D. Years with company (67 Respondents)

0 - 5	71%	(49/69)
6 - 10	19%	(13/69)
11 - 15	4%	(3/69)
16 +	6%	(4/69)

E. Years in school (69 Respondents)

0		
1	9%	(6/69)
2	1%	(1/69)
3	3%	(2/69)
4		
5	3%	(2/69)
6	7%	(5/69)
7		
8	1%	(1/69)
9	7%	(5/69)

(* Note: years in school for ESL students may be in native country)

10	9%	(6/69)
11	3%	(2/69)
12	26%	(18/69)
12 +	17%	(12/69)
GED	12%	(8/69)

* 12: Laos
4: Vietnam
3: Thailand

4 F. Single Head of Household (69 respondents)

32% (22/69)

III. BREAKDOWN BY COMPANY

A. Students completed/students enrolled

		WLS	ESL
(2ESL) -	Marquest		9/12 (75%)
	Marquest		12/12 (100%)
	Metrum	6/6 (100%)	
(2WLS) -	Norgren	17/17 (100%)	
	Norgren	11/15 (73%)	
(2WLS) -	Wilkerson	7/12 (58%)	
	Wilkerson	7/8 (88%)	

B. Teacher/student contact hours:
(of students who completed)

	WLS	ESL	TOTAL
(2ESL) Marquest		768	768
(1WLS) Metrum	100		100
(2WLS) Norgren	* 904		* 904
(2WLS) Wilkerson	542		542
TOTALS	1,546	768	2,314

*Note: Includes 1 tutored student at 26 hours. Only place where student is counted.

APPENDIX E

STUDENT ENROLLMENT DATA

SUMMARY

Summer Session: 6/22/92 - 8/28/92

I. TOTALS

82 students completed Summer Session includes 14 repeat students: 5 WLS tutors, 1 ESL tutor, 8 ESL students.

86 students enrolled originally

Drops:	3	Norgren	WLS (2+1)
	1	Metrum	WLS

II. FOR STUDENTS WHO COMPLETED SESSION:

A. Ethnicity (80 Respondents)

White	47%	(38/80)
Black	3%	(2/80)
Hispanic	11%	(9/80)
Am. Indian/Alaska Native	1%	(1/80)
Asian/Pacific Islander	38%	(30/80)

B. Sex (82 Respondents)

Male:	48%	(39/82)
Female:	52%	(43/82)

C. Mean Age

40.5 (75 Respondents)

D. Years with company (79 Respondents)

0 - 5	39%	(31/79)
6 - 10	38%	(30/79)
11 - 15	15%	(12/79)
16 +	8%	(6/79)

E. Years in school (79 Respondents)

0	5% (4/79)	10	6% (5/79)
1	3% (2/79)	11	4% (3/79)
2	1% (1/79)	12	29% (23/79)
3	5% (4/79)	12 +	33% (26/79)
4	1% (1/79)	GED	1% (1/79)
5			
6	5% (4/79)		
7			
8	3% (2/79)		
9	4% (3/79)		

(Note: years in school for ESL students may be in native country)

F. Single Head of Household (82 respondents)

30% (25/82)

III. BREAKDOWN BY COMPANY

A. Students completed/students enrolled

		WLS	ESL
(2ESL) -	Marquest		11/11 (100%)
	Marquest		12/12 (100%)
	Metrum	4/5 (80%)	3/ 3 (100%)
(2WLS) -	Norgren		12/14 (86%)
	Norgren		15/16 (94%)
	Wilkerson	13/13 (100%)	6/ 6 (100%)

B. Teacher/student contact hours:
(of students who completed)

		WLS	ESL	TOTAL
(2ESL)	Marquest		864	864
	Metrum	150	118	268
	Norgren	* 848		* 848
(2WLS)	Wilkerson	432	214	646
	TOTALS	1,430	1,196	2,626

*Note: Includes 1 tutored student at 20 hours. Only place where student is counted.

APPENDIX E

STUDENT ENROLLMENT DATA

SUMMARY

Spring Session: 3/30/92 - 6/5/92

I. TOTALS

70 students completed Spring Session (includes 12 ESL repeat students)

89 students enrolled originally

Drops:	3	Marquest	WLS
	2	Marquest	ESL (left company)
	11	Norgren	WLS
	2	Wilkerson	WLS (shift change)
	1	Wilkerson	ESL

II. FOR STUDENTS WHO COMPLETED SESSION;

A. Ethnicity (70 Respondents)

White	40%	(28/70)
Black	1.4%	(01/70)
Hispanic	28.6%	(20/70)
Am. Indian/Alaska Native	0%	(00/70)
Asian/Pacific Islander	30%	(21/70)

B. Sex

Male:	54%	(38/70)
Female:	46%	(32/70)

C. Mean Age

38.2 (70 Respondents) (same as Winter Session)

D. Years with company (70 Respondents)

41%	00 - 05 (29/70)
26%	06 - 10 (18/70)
19%	11 - 15 (13/70)
11%	16 + (08/70)
3%	Unknown (02/70)

E. Years in school (Note: years in school for ESL students may be in native country)

3	03% (02/70)	10	11% (08/70)
4	00% (00/70)	11	06% (04/70)
5	03% (02/70)	12	50% (35/70)
6	03% (02/70)	12 +	14% (10/70)
7	03% (02/70)		
8	03% (02/70)		
9	04% (03/70)		

F. Single Head of Household

39% (27/70)

III. BREAKDOWN BY COMPANY

A. Students completed/students enrolled

	WLS	ESL
Marquest	06/09 (67%)	09/11 (80%)
Metrum	04/04 (100%)	03/03 (100%)
Norgren	13/24 (54%)	07/07 (100%)
Wilkerson	19/21 (90%)	09/10 (90%)

B. Teacher/student contacts hours:
(of students who completed)

	WLS	ESL	TOTAL
Marquest	230	270	500
Metrum	114	98	212
Norgren	* 616	210	* 826
Wilkerson	582	260	842
TOTALS	1,542	838	*2,380

* Includes 3 tutored students, at 34 hrs.

STUDENT ENROLLMENT DATA

SUMMARY

Winter Session: 01/06/92 - 03/19/92

I. TOTALS

83 students completed Winter Session

95 students enrolled originally

Drops:	2	Marquest	WLS
	5	Metrum	WLS - Laid off
	2	Metrum	ESL - Laid off
	1	Norgren	WLS
	2	Wilkerson	WLS

II. FOR STUDENTS WHO COMPLETED SESSION:

A. Ethnicity (83 Respondents)

White	47%	(39/83)
Black	04%	(03/83)
Hispanic	20%	(17/83)
Am. Indian/Alaska Native	01%	(01/83)
Asian/Pacific Islander	28%	(23/83)

B. Sex

Male:	42%	(35/83)
Female:	58%	(48/83)

C. Mean Age

38.2 (81 Respondents)

D. Years with company (83 Respondents)

0 - 5	30%	(25/83)
6 - 10	37%	(31/83)
11 - 15	22%	(18/83)
16 +	11%	(09/83)

E. Years in school (Note: Years in school for ESL students may be in native country)

3	01%	(01/83)	7			10	06%	(05/83)
4	01%	(01/83)	8	4%	(03/83)	11	06%	(05/83)
5	01%	(01/83)	9	4%	(03/83)	12	57%	(47/83)
6	01%	(01/83)				12 +	19%	(16/83)

F. Single Head of Household

41% (34/83)

III. BREAKDOWN BY COMPANY

A. Students completed/students enrolled

	WLS	ESL
Norgren	20/21 (95%)	8/8 (100%)
Wilkerson	21/23 (91%)	8/8 (100%)
Metrum	11/16 (69%)	7/9 (78%)
Marquest	4/6 (67%)	4/4 (100%)

B. Teacher/student contact hours:
(of students who completed)

	WLS	ESL	TOTAL
Norgren	754	284	1038
Wilkerson	750	278	1028
Metrum	354	218	572
Marquest	60	112	172
TOTAL			2,810

APPENDIX E

STUDENT ENROLLMENT DATA

SUMMARY

Pilot Project: 10/14/91 - 11/14/91

I. TOTALS Note: These students not counted in cumulative program count; most repeated the class during the regular program year.

55 students completed Pilot Project

60 students enrolled originally

Drops:			
	1	Norgren	WLS
	4	Metrum	WLS

II. OF ALL (60) ORIGINALLY ENROLLED STUDENTS:

A. Ethnicity (58 Respondents)

White	55%	(32/58)
Black	5%	(3/58)
Hispanic	14%	(8/58)
Am. Indian/Alaska Native	2%	(1/58)
Asian/Pacific Islander	24%	(14/58)

B. Sex

Male:	42%	(25/60)
Female:	58%	(35/60)

C. Mean Age

40.9 (54 Respondents)

D. Years with Company (59 respondents)

0 - 5	25%	(15/59)
6 - 10	22%	(13/59)
11 - 15	33%	(19/59)
16 +	20%	(12/59)

E. Years in School

4	2% (1/60)	7		10	5% (3/60)
5		8	7% (4/60)	11	8% (5/60)
6		9	3% (2/60)	12	75% (45/60)

F. Single Head of Household

40% (24/60)

III. BREAKDOWN BY COMPANY

A. Students completed/students enrolled

	WLS	ESL
Norgren	14/15 (93%)	6/6 (100%)
Wilkerson	15/15 (100%)	6/6 (100%)
Metrum	9/13 (69%)	5/5 (100%)

B. Teacher/student contact hours:

	WLS	ESL	TOTAL
Norgren	199	166	315
Wilkerson	228	115	343
Metrum	196	85	281
TOTAL			939

APPENDIX F

Session Fall

DATES: 9/14/92 - 11/19/92

NATIONAL WORKPLACE LITERACY PROGRAM INFORMATION FORM

Part 1: Program Parameters

1. Target No. to be Served: 200

2. No. Served at Each Site to Date:

	W	E	
(1). Norgren	87	14	Unduplicated
(2). Wilkerson	62	10	count
(3). Metrum	22	7	Cumulative
(4). Marquest	0	67	

3. Total No. Served: W: 171 Cumulative
E: 98
Total: 269

Part 2: Participation Data-68 students for fall

1. Mean Age Participants: 38.95

3. Race/Ethnicity: No. who are:

White 24 Am. Indian/
Black 2 Alaska Native 1
Hispanic 14
Asian/Pacific Islander 28

6. Outcomes No. Participants

a. Tested higher on basic skills
W 29 E 11
Reading:
Math:
*b. Improved communication skills
*c. Increased productivity
*d. Improved attendance at work
*e. Increased self-esteem

*Will be documented on formative external evaluation reports.

W =Workplace Learning Skills
E=English as a Second Language

4. Fed Funds Obligated: $266,022

5. Matching Funds/In-Kind: $151,665

6. Value Release Time: Varied

7. No. Participation in Program Offered: (Fall session only) Total Count includes repeats not counted in Part I, Nos. 2 & 3.
Basic Skills 48 (8 repeats)
GED ____
ESL 21

8. Contact Hours Provides: 2,288
(Contact Hours are the number of teaching hours that workers receive)

2. Sex: No. Males: 36
No. Females 33

4. No. Single Head of Household: 22

5. No. Limited English Proficient: 21

7. Years with the company:

	No. Participants:
Unemployed	0
0 - 5	49
6 - 10	13
11 - 15	3
16 - over	4

NOTE: 2 WLS classes at Norgren, Wilkerson
1 WLS class at Metrum
2 ESL classes at Marquest

NOTE: 3 Repeat students at Metrum began as ESL students, are now GED students
5 Repeat students at Wilkerson began as ESL students; are now WLS students

APPENDIX F

SUMMER SESSION

DATES: 6/22/92 TO 8/28/92

NATIONAL WORKPLACE LITERACY PROGRAM INFORMATION FORM

Part 1: Program Parameters

1. Target No. to be Served: 200

2. No. Served at Each Site to Date:
(Unduplicated count)
Only count that is cumulative.

	W	E
(1).Norgren	60	14
(2).Wilkerson	53	10
(3).Metrum	19	7
(4).Marquest	0	46

3. Total Served: W: 132
E: 77
Total 209

4. Fed Funds Obligated: $266,022

5. Matching Funds/In-Kind: $151,665

6. Value Release Time: Varied

7. No. Participating in Program Offered:
(Summer Session Only) Total count.
Includes repeats not counted in part 1, No. 2.
Basic Skills 45 (5 are repeats)

GED_____
ESL 37 (9 are repeats)

8. Contact Hours Provides: 2,562 (Contact Hours are the number of teaching hours that workers receive)
4 hours of class per week
Total hours from 10-week session

Part 2: Participation Data
(82 Students for Summer)

1. Mean Age Participants: 40.5
W = 39.95 E = 40.95

2. Sex: No. Males 39
No. Females 43

3. Race/Ethnicity: No. who are:

White 38 Am. Indian/
Black 2 Alaska Native 1
Hispanic 9
Asian/Pacific Islander 30 OutcomesNo Participants

4. No. Single Head of Household: 25

5. No. Limited English Proficient: 37

a. Tested higher on basic skills Reading or Math: 43
*b. Improved communication skills
*c. Increased productivity
*d. Improved attendance at work
*e. Increased self-esteem

*Will be documented on formative external evaluation reports.

7. Years with the company:

	No. Participants:
Unemployed	0
0 - 5	31
6 - 10	30
11- 5	12
16- over	6

W = Workplace Learning Skills
E = English as a Second Language

Note: 2 WLS classes at Norgren.
2 ESL classes at Marquest.

SPRING SESSION
DATES: MARCH 30, 1992 - JUNE 5, 1992

NATIONAL WORKPLACE LITERACY PROGRAM INFORMATION FORM

Part 1: Program Parameters

1. Target No. to be Served: 200

2. No. Served at Each Site to Date:

	W	E (unduplicated)
(1). Norgren	33	14 count)
(2). Wilkerson	40	9 (only count
(3). Metrum	15	7 that is
(4). Marquest	10	13 cumulative)

3. Total No. Served: W: 98
E: 43
TOTAL: 141

4. Fed Funds Obligated: $266,022

5. Matching Funds/In-Kind: $151,665

6. Value Release Time: Varies

7. No. Participation in Program Offered:
(Spring Session Only)
Basic Skills 42
(Workplace Learning Skills)
GED _____
ESL 28 (12 are repeating students not counted in Part 1, no.2.)

8. Contact Hours Provides: 2,380
W=1,542 E=838
(Contact Hours are the number of teaching hours that workers receive)
4 hours of class per week
Total hours from 10-week session

Part 2: Participation Data

W-36.9 E-39.6

1. Mean Age Participants: 38.25

2. Sex: No. Males 38
No. Females 32

3. Race/Ethnicity: No. who are:

	W	E		W	E
White	28		Am. Indian/	0	0
Black	1		Alaska Native	0	0
Hispanic	10	10=(20)			
Asian/Pacific Islanders	3	18			

4. No. Single Head of Household: 27

5. No. Limited English Proficient: 28

Outcomes	No. Participants W	No. Participants E
a. Tested higher on basic skills		
Reading:	17	14
*b. Improved communication skills		
*c. Increased productivity		
*d. Improved attendance at work		
*e. Increased self-esteem		

*Will be documented on formative external evaluation reports.

7. Years with the company:

	No. Participants:
Unemployed	_
0 - 5	29
6 - 10	18
11 - 15	13
16 - over	8
Unknown	2

W = Workplace Learning Skills
E = English as a Second Language

APPENDIX F

Winter Session
January 13, 1992 - March 19, 1992

NATIONAL WORKPLACE LITERACY PROGRAM INFORMATION FORM

Part 1: Program Parameters

1. Target No. to be Served: 200

2. No. Served at Each Site to Date:

	W	E
Norgren (1).	20	8
Wilkerson (2).	21	8
Metrum (3).	11	7
Marquest (4).	4	4

3. Total No. Served: W: 56
E: 27
Total 83

4. Fed Funds Obligated: $266,022
5. Matching Funds/In-Kind: $151,665

6. Value Release Time: Varies

7. No. Participation in Program Offered:

Basic Skills 56
(Workplace Learning Skills)
GED_____
ESL 27

8. Contact Hours Provides: 2,810
W = 1918 E = 892
(Contact Hours are the number of teaching hours that workers receive)
4 hours of class per week
Total hours from 10-week session

Part 2: Participation Data

1. Mean Age Participants: 38.2

2. Sex: No. Males 35
No. Females 48

3. Race/Ethnicity: No. who are:

White 39 Am. Indian/
Black 3 Alaska Native 1
Hispanic 17
Asian/Pacific Islander 23

4. No. Single Head of Household: 34

5. No. Limited English Proficient: 31

6. Outcomes No. Participants

a. Tested higher on basic skills
Reading: 46
Math: 30
*b. Improved communication skills
*c. Increased productivity
*d. Improved attendance at work
*e. Increased self-esteem

*Will be documented on formative external evaluation reports.
(b., c., d., and e.)

7. Years with the company:

	No. Participants:
Unemployed	0
0 - 5	25
6 - 10	31
11 - 15	18
16 - over	9

APPENDIX G

WORKPLACE EDUCATION PROGRAM
ARAPAHOE COMMUNITY COLLEGE

COURSE OUTLINE

Please review this list and think about those skills you would like to study during the next ten weeks. We cannot include all of them, so it is particularly important that you select only those that are of the most interest and most necessary for you to learn now.

You don't need to indicate your choices on this page. You will be asked for your decisions during pre-registration. Thank you.

COMPUTER SKILLS **(First week of classes)**

- Organizing information
- Scanning for information
- Giving and following written directions
- Giving and following oral directions
- Spelling correctly
- Finding information
- Understanding and using symbols and abbreviations

READING AND LANGUAGE **(3 Weeks)**

- Organizing information
- Transferring information
- Predicting outcomes
- Understanding and using symbols and abbreviations
- Writing and following directions
- Recording data on forms
- Punctuation
- Summarizing information
- Writing memos
- Finding written information
- Understanding data
- Scanning for information
- Workplace vocabulary
- Comparing and contrasting
- Printing legibly
- Spelling
- Logging information
- Using correct grammar
- Number identification

COMMUNICATION **(3 Weeks)**

- Asking and answering questions
- Using workplace vocabulary
- Giving and following directions (written)
- Applied communications
- Prioritizing responsibilities
- Coaching and modeling (setting the example)
- Brainstorming
- Managing conflicts
- Giving and following directions (oral)
- Goal setting
- Applied social skills

COMPUTATION **(2 Weeks)**

- Number identification
- Fractions, decimals, and percents
- Scanning and matching numbers
- Reading and understanding charts and graphs
- Symbol identification
- Using a calculator
- Estimating
- Workplace math problems
- Adding, subtracting, multiplying and dividing whole numbers, fractions, and decimals

REVIEW **(Last week of class)**

- All of the above (student's choice)

APPENDIX H

Areas of Concentration / Target Competencies	Learning How to Learn	Reading	Writing	Computation	Speaking and Listening	Problem Solving	Creative/ Critical Thinking	Personal Management	Team Work	Workplace Safety
Asking and answering questions	I P A				I P A	A	A		A	A
Active listening	I P A				I P A	A	A	A	A	A
Requesting clarification	I P A				I P A	A	A		A	A
Sequencing information		I P				A				
Sorting/classifying		I P				A	A			
Locating information	I P	I P				A				
Transferring information		I P A								
Interpreting data (graphs, charts)		I P		I P		A				
Predicting outcomes/ cause and effect	I P	I P A				A	A			A
Scanning			I P A							
Interpreting and applying symbols and abbreviations		I P A	I P A							
Utilizing workplace vocabulary		I P A	I P A		I P A					
Comparing and contrasting	I P	I P				A	A			

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Areas of Concentration / Target Competencies	Learning How to Learn	Reading	Writing	Computation	Speaking and Listening	Problem Solving	Creative/ Critical Thinking	Personal Management	Team Work	Workplace Safety
Sequencing (alpha)		I P A								
Giving and following directions (written)	I P	I P A							A	A
Printing legibly			I P A							
Recording data on forms			I P A							
Utilizing language mechanics			I P A							
Utilizing standard English grammar			I P A							
Logging anecdotal information			I P A							
Spelling correctly			I P A							
Generating appropriate written communication			I P A							
Interpreting measurements on tools				I P A						
Sequencing (numeric)				I P A						
Utilizing basic math				I P A						
Recognizing numbers				I P A						

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Areas of Concentration / Target Competencies	Learning How to Learn	Reading	Writing	Computation	Speaking and Listening	Problem Solving	Creative/ Critical Thinking	Personal Management	Team Work	Workpla Safety
Estimating				I P A		A				
Measuring: U.S. standard to metric				I P A						
Giving and following directions (oral)	I P				I P A					
Using telephone					I P A					
Using appropriate oral communication (managers, peers, customers)					I P A	A	A		P A	
Identifying and selecting the problems	I P					I P A				
Analyzing the problems	I P					I P A				
Generating potential solutions	I P					I P A				
Selecting and planning the solutions	I P					I P A				
Implementing the solution	I P					I P A				
Evaluating the solution	I P					I P A				
Prioritizing information	I P					I P A	A	A	A	
Brainstorming					I P	I P A	A		A	

Areas of Concentration / Target Competencies	Learning How to Learn	Reading	Writing	Computation	Speaking and Listening	Problem Solving	Creative/ Critical Thinking	Personal Management	Team Work	Workplac Safety
Managing conflicts						I P A	I P A	A	I P A	
Prioritizing responsibilities	I P					A	I P A	A	A	
Summarizing information (written & oral) (synthesizing)	I P A	I P A	I P A		I P A	A	I P A		A	
Using appropriate non-verbal communication								I P A	I P A	
Goal setting (personal and production)	I P					A	A	I P A	I P A	A
Utilizing appropriate social skills								I P A	I P A	
Coaching and modeling					I P A			P A	I P A	A

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APPENDIX I

RESULTS OF CASAS PRE AND POST TESTING
SCALED SCORES FALL "92"

WILKERSON

WORKPLACE LEARNING SKILLS MARK SULLIVAN

STUDENT NAMES	PRE SCORE READING	POST SCORE READING	PRE SCORE MATH	POST SCORE MATH
	N/A	N/A	N/A	N/A
	B-225	B-228	C-236	C-238
	N/A	C-243	N/A	C-230
	C-227	C-231	C-238	C-ABOVE
	B-217	B-223	B-210	B-218
	B-217	B-219	B-ABOVE	C-230
	C-221	C-219	B-224	B-220

5 COMPLETED PRE & POST TESTS

READING: 80% INCREASED THEIR SCORES
MATH: 80% INCREASED THEIR SCORES

RESULTS OF CASAS PRE AND POST TESTING
SCALED SCORES FALL "92"

WILKERSON

WORKPLACE LEARNING SKILLS JENNIFER BURKHART

STUDENT NAMES	PRE SCORE READING	POST SCORE READING	PRE SCORE MATH	POST SCORE MATH
	D-237	N/A	C-240	N/A
	D-245	D-250	D-250	D-250
	C-242	N/A	C-230	N/A
	N/T *	N/T	N/T	N/T
	D-246	N/T	D-237	N/T
	N/A	N/A	N/A	N/A
	D-ABOVE	D-ABOVE	C-247	D-248
	D-250	D-252	C-236	C-ABOVE
	C-233	C-238	C-238	C-238
	D-252	N/A	D-239	N/A
	D-248	D-250	D-219	D-234
	D-245	N/A	D-230	N/A

5 COMPLETED PRE & POST TESTS

READING: 80% INCREASED THEIR SCORES
MATH: 60% INCREASED THEIR SCORES

*N/T= NOT TESTED

RESULTS OF CASAS PRE AND POST TESTING
SCALED SCORES FALL "92"

NORGREN

WORKPLACE LEARNING SKILLS MARK SULLIVAN

STUDENT NAMES	PRE SCORE READING	POST SCORE READING	PRE SCORE MATH	POST SCORE MATH
	D-245	D-240	C-236	C-234
	D-ABOVE	D-ABOVE	A-ABOVE	D-ABOVE
	D-254	N/A	D-ABOVE	N/A
	C-239	N/A	D-236	N/A
	C-229	C-238	C-234	C-238
	D-ABOVE	D-ABOVE	D-ABOVE	D-ABOVE
	C-235	C-ABOVE	D-228	D-237
	D-252	D-ABOVE	D-255	D-ABOVE
	C-230	C-ABOVE	C-236	C-ABOVE
	C-233	C-ABOVE	C-227	C-ABOVE

8 COMPLETED PRE & POST TESTS

READING: 62.5% INCREASED THEIR SCORES
MATH: 75% INCREASED THEIR SCORES

RESULTS OF CASAS PRE AND POST TESTING
SCALED SCORES FALL "92"

NORGREN

WORKPLACE LEARNING SKILLS JENNIFER BURKHART

STUDENT NAMES	PRE SCORE READING	POST SCORE READING	PRE SCORE MATH	POST SCORE MATH
	D-245	D-240	D-232	D-247
	C-230	N/T*	C-230	ABSENT
	D-250	D-ABOVE	D0251	D-247
	D-240	D-246	D-230	D-228
	D-256	D-ABOVE	D-244	D-255
	D-254	D-ABOVE	D-241	D-249
	D-238	D-246	D-235	D-247
	D-252	D-252	D-237	D-255
	D-ABOVE	D-ABOVE	D-253	D-ABOVE
	D-256	D-ABOVE	D-239	D-251
	D-230	D-237	D-228	D-235
	D-248	D-250	D-234	D-232
	D-230	D-225	D-234	D-230
	D-245	D-230	D-235	D-239
	D-252	D-ABOVE	D-232	D-253
	D-236	D-252	D-236	D-236
	D-236	D-238	D-222	D-226

16 COMPLETED PRE & POST TESTS

READING: 69% INCREASED THEIR SCORES
MATH: 69% INCREASED THEIR SCORES

*=NOT TESTED

RESULTS OF G.E.D. PRACTICE TEST:
WRITING SKILLS FALL "92"

METRUM

GED

STUDENT NAMES	PRE SCORE WRITING	POST SCORE WRITING
	N/A	N/A
	N/A	N/A
	26	27
	39	N/A
	34	37
	20	26

3 COMPLETED PRE & POST TESTS

WRITING: 100 % INCREASED THEIR SCORES

APPENDIX I

RESULTS OF CASAS PRE AND POST TESTING

SCALED SCORES SUMMER "92"

MARQUEST

WORKPLACE LEARNING SKILLS AND ESL

TESTS NOT ADMINISTERED THIS SESSION.

INAPPROPRIATE FOR SKILL LEVELS OF STUDENTS.

RESULTS OF CASAS PRE AND POST TESTING
SCALED SCORES SUMMER "92"

METRUM

ENGLISH AS A SECOND LANGUAGE

STUDENT NAMES	PRE SCORE READING	POST SCORE READING	PRE SCORE MATH	POST SCORE MATH
	C- 211	C- 225	A- ABOVE	C- 225
	D- 240	D- 237	D- 253	D- 253
	C- 237	C- 236	C- 230	C- 228

3 COMPLETED PRE & POST TESTS

READING: 33% INCREASED THEIR SCORES
MATH: 33% INCREASED THEIR SCORES

RESULTS OF CASAS PRE AND POST TESTING
SCALED SCORES SUMMER "92"

METRUM

WORKPLACE LEARNING SKILLS

STUDENT NAMES	PRE SCORE READING	POST SCORE READING	PRE SCORE MATH	POST SCORE MATH
	D- ABOVE	D- ABOVE	D- 253	D- ABOVE
	D- 252	N/A	D- ABOVE	N/A
	D- 254	D- 254	C- 238	C- ABOVE
	D- 256	D- ABOVE	D- 246	D- 246
	D- 234	D- 235	C- 230	C- 230

4 COMPLETED PRE & POST TESTS

READING: 50% INCREASED THEIR SCORES
MATH: 50% INCREASED THEIR SCORES

RESULTS OF CASAS PRE AND POST TESTING
SCALED SCORES SUMMER "92"

NORGREN

WORKPLACE LEARNING SKILLS

STUDENT NAMES	PRE SCORE READING	POST SCORE READING	PRE SCORE MATH	POST SCORE MATH
	D- 248	D 238	D 255	D- ABOVE
	C 230	C 224	C 226	C- 214
	C 235	C ABOVE	C 238	C- ABOVE
	C 218	C 228	C 223	C- 236
	C 242	C 243	C 236	C 238
	C 236	C- 232	C 230	C- 238
	C 226	C- 238	C 230	C ABOVE
	C 229	C- 238	D 253	D- 246
	DROPPED			
	C 237	C 240	C 238	C ABOVE
	C 230	C- ABOVE	C 223	C- ABOVE
	C 242	C- ABOVE	C 236	C ABOVE
	C 225	C ABOVE	C 238	C ABOVE
	D 256	D ABOVE	D 247	D 246
	D+ ABOVE	D 246	D 246	D 244
	D+ ABOVE	D ABOVE	D 241	D 255

15 COMPLETED PRE & POST TESTS

READING: 67% INCREASED THEIR SCORES
MATH: 73% INCREASED THEIR SCORES

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RESULTS OF CASAS PRE AND POST TESTING
SCALED SCORES SUMMER "92"

NORGREN

WORKPLACE LEARNING SKILLS

STUDENT NAMES	PRE SCORE READING	POST SCORE READING	PRE SCORE MATH	POST SCORE MATH
	C	N/A	C- 230	N/A
		N/A	D- 235	N/A
		D- 224	D- 214	D- 221
		- ABOVE	C- 236	C- ABOVE
		D- 241	D- 232	D- 236
	24	C- 230	C- 234	C- 238
	235	C- ABOVE	C- 238	C- ABOVE
	D- 236	N/A	C- 229	N/A
	D- ABOVE	N/A	D- 253	N/A
	C- 233	C- ABOVE	C- 236	C- ABOVE
	C- 219	C- 227	C- 211	C- 218
	C- 222	N/A	C- 218	C- 230
	C- 224	N/A	C- 212	C- N/A
	C- 225	C- 240	C- 223	C- 232

8 COMPLETED PRE & POST TESTS IN READING
9 COMPLETED PRE & POST TESTS IN MATH

READING: 75% INCREASED THEIR SCORES
MATH: 100% INCREASED THEIR SCORES

RESULTS OF CASAS PRE AND POST TESTING
SCALED SCORES SUMMER "92"

WILKERSON
ENGLISH AS SECOND LANGUAGE

STUDENT NAMES	PRE SCORE READING	POST SCORE READING	PRE SCORE MATH	POST SCORE MATH
	B- 214	B- 225	C- 238	C- 236
	N/A	A- ABOVE	N/A	B- 222
	C- 224	C- 227	B- 227	B- ABOVE
	B- 216	B- 210	B- 218	B- 217
	B- 213	B- 217	B- 215	B- ABOVE
	B- 221	C- 221	B- 213	B- 224

5 COMPLEATED PRE & POST TESTS

READING: 80% INCREASED THEIR SCORES
MATH: 60% INCREASED THEIR SCORES

RESULTS OF CASAS PRE AND POST TESTING
SCALED SCORES SUMMER "92"

WILKERSON
WORKPLACE LEARNING SKILLS

STUDENT NAMES	PRE SCORE READING	POST SCORE READING	PRE SCORE MATH	POST SCORE MATH
	C- 230	C- ABOVE	B- 210	B- ABOVE
	C- 233	C- 240	C- 236	C- 238
	C- 243	N/A	D- 241	N/A
	C- 233	C- ABOVE	B- 227	B- ABOVE
	D- 254	D- 248	D- 234	D- 235
	D- ABOVE	D- ABOVE	D- 253	D- ABOVE
	D- 250	D- 252	D- 246	D- 246
	D- ABOVE	D- ABOVE	D- 238	D- 249
	D- 250	D- 235	D- 246	D- 236
	B- 217	B- 221	B- 205	B- 212
	C- 226	N/A	C- 234	N/A
	C- 234	C- 238	C- 223	C- ABOVE
	C- 229	C- 240	D- 234	D- 237
	C- 229	C- 240	D- 234	D- 237
	D- 256	D- ABOVE	D- 234	D- 253

12 COMPLETED PRE & POST TESTS

READING: 67% INCREASED THEIR SCORES
MATH: 83% INCREASED THEIR SCORES

CASAS SCORES

SPRING SESSION
WORKPLACE LEARNING SKILLS

WILKERSON

Percentage at level:

14 out of 21 students completed both Pre & Post Tests in reading.

13 out of 21 students completed both Pre & Post Tests in math.

READING

PRE (14)			POST (14)		
A	-		A	-	
B	-		B	-	
C	-	50%	C	-	43%
C+	-	50%	C+	-	57%

29% Increased their scores

MATH

A	-		A	-	
B	-		B	-	
C	-	77%	C	-	46%
C+	-		C+	-	31%
D	-	15%	D	-	15%
D+	-	8%	D+	-	8%

85% Increased their scores

CASAS SCORES

SPRING SESSION
WORKPLACE LEARNING SKILLS

NORGREN

Percentage at level:
11 out of 22 students completed both Pre & Post Tests

READING

	PRE (11)			POST (11)	
A	-		A	-	
B	-	9%	B	-	
B+	-	9%	B+	-	
C	-	45%	C	-	55%
C+	-	36%	C+	-	45%

55% Increased their scores

MATH

A	-		A	-	
B	-		B	-	
C	-	18%	C	-	18%
D	-	73%	D	-	55%
D+	-	9%	D+	-	27%

70% Increased their scores

CASAS SCORES

SPRING SESSION
WORKPLACE LEARNING SKILLS

METRUM

Percentage at level:
3 out of 4 students completed both Pre & Post Tests

READING

	PRE (3)		POST (3)
A	-	A	-
B	-	B	-
C	- 100%	C	-33 1/3%
C+	-	C+	-66 2/3%
D	-	D	-

100% Increased their scores

MATH

A	-	A	-
B	-	B	-
C	-33 1/3%	C	-33 1/3%
D	-66 2/3%	D	-33 1/3%
D+	-	D+	-33 1/3%

100% Increased their scores

CASAS SCORES

SPRING SESSION
WORKPLACE LEARNING SKILLS

MARQUEST

Percentage at level:
6 out of 8 students completed both Pre & Post Tests

READING

	PRE (6)		POST (6)
A	-	A	-
B	-83 1/3%	B	-66 2/3%
B+	-	B+	-16 2/3%
C	-16 2/3%	C	-16 2/3%

66 2/3% Increased their scores

MATH

A	-	A	-
B	-83 1/3%	B	-83 1/3%
C	-16 2/3	C	-16 2/3%
D	-	D	-

33 1/3% Increased their scores

CASAS SCORES

SPRING SESSION
ENGLISH AS A SECOND LANGUAGE

MARQUEST

Percentage at level:
4 out of 9 students completed both Pre & Post Tests

READING

	PRE (4)		POST (4)	
A	-	25%	A -	25%
B	-	75%	B -	75%
C	-		C -	
D	-		D -	

75% Increased thei-

MA

A	-	25%	-	25%
A+	-		A+ -	
B	-	75%	B -	75%
C	-		C -	
D	-		D -	

50% Increased their scores

CASAS SCORES

SPRING SESSION
ENGLISH AS A SECOND LANGUAGE

METRUM

Percentage at level:
3 out of 3 students completed both Pre & Post Tests

READING

	PRE (3)		POST (3)
A	-	A	-
B	- 66.33%	B	-33 1/3%
C	-33 1/3%	C	-33 1/3%
C+	-	C+	-
D	-	D	-33 1/3%

100% Increased their scores

MATH

A	-33 1/3%	A	-
B	-33 1/3%	B	-33 1/3%
B+	-	B+	-
C	-33 1/3%	C	-33 1/3%
D	-	D	-33 1/3%

100% Increased their scores

CASAS SCORES

SPRING SESSION
ENGLISH AS A SECOND LANGUAGE

NORGREN

Percentage at level:
6 out of 6 Students completed both Pre & Post Tests

READING

	PRE (6)		POST (6)
A	-	A	-
B	-	B	-
B+	-	B+	-16.66%
C	- 100%	C	-66.66%
D	-	D	-16.66%

50% Increased their scores

MATH

A	-	A	-
B	-66.66%	B	-50.00%
B+	-	B+	-16.66%
C	-16.66%	C	-16.66%
C+	-16.66%	C+	-16.66%
D	-	D	-

67% Increased their scores

CASAS SCORES

SPRING SESSION
ENGLISH AS A SECOND LANGUAGE

WILKERSON

Percentage at level:
7 out of 7 students completed both Pre & Post Tests

READING

PRE (7)		POST (7)	
A	-	A	-
B	- 71%	B	- 71%
C	- 29%	C	- 29%
D	-	D	-

71% Increased their scores

MATH

Percentage at level:
6 out of 7 completed both Pre & Post Tests

A	-	A	-16.66%
A+	-16.66%	A+	-
B	-66.66%	B	-50.00%
B+	-	B+	-16.66%
C	-16.66%	C	-16.66%
D	-	D	-

33% Increased their scores

APPENDIX I

MARQUEST

WINTER SESSION CASAS COMPETENCIES

English as a Second Language

Percentage at level:

PRE (4)

Reading:

A	-	75%
B	-	25%
C	-	0%
D	-	0%

Math:

A	-	100%
A+	-	0%
B	-	0%
C	-	0%
D	-	0%
**Unknown	-	0%

POST (4)

Reading:

A	-	25%
B	-	75%
C	-	0%
D	-	0%

Math:

A	-	25%
A+	-	25%
B	-	25%
C	-	0%
D	-	0%
Unknown	-	25%

NOTE:

Workplace Learning Skills students were not tested.

** Did not give the test back to Mark.

METRUM

WINTER SESSION CASAS SCORES

Workplace Learning Skills

Percentage at level:

PRE (13)

Reading:

A	-	0%
B	-	0%
C	-	15%
D	-	85%
Dropped		

Math:

A	-	0%
B	-	0%
C	-	85%
+C	-	15%
D	-	0%
Dropped		

POST (8)

Reading:

A	-	0%
B	-	
C	-	
D	-	100%
Dropped		5 of 13
		38.5%

Reading:

A	-	0%
B	-	0%
C	-	62.5%
C+	-	37.5%
D	-	0%
Dropped		5 of 13
		38.5%

Note:

Students who dropped were laid off by the company.

WILKERSON

WINTER SESSION CASAS SCORES

Workplace Learning Skills

Percentage at level:

PRE

Reading:

A	-	0%	
B	-	0%	
C	-	80%	
C+	-	0%	
D	-	5%	
+D	-	5%	
Unknown	-		10%

Math:

A	-	0%	
B	-	10%	
C	-	25%	
+C	-	15%	
D	-	0%	
Unknown	-		50%

POST

Reading:

A	-		
B	-		
C	-	60%	
C+	-	15%	
D	-	5%	
D+	-	0%	
Unknown	-		20%

Math:

A	-	0%	
B	-	35%	
C	-	20%	
C+	-	20%	
D	-	0%	
Unknown	-		25%

NORGREN

WINTER SESSION CASAS SCORES

Workplace Learning Skills

Percentage at level:

PRE (20)

Reading:

A	-	0%
B	-	0%
C	-	65%
C+	-	0%
D	-	30%
D+	-	0%
Unknown	-	5%

Math:

A	-	0%
A+	-	0%
B	-	40%
B+	-	5%
C	-	20%
C+	-	35%
D	-	0%
Unknown	-	0%

POST (20)

Reading:

A	-	0%
B	-	0%
C	-	45%
C+	-	20%
D	-	30%
D+	-	5%
Unknown	-	0%

Math:

A	-	0%
A+	-	0%
B	-	20%
B+	-	20%
C	-	10%
C+	-	45%
D	-	0%
Unknown	-	5%

NORGREN

WINTER SESSION CASAS COMPETENCIES

English as a Second Language

Percentage at level:

PRE (8)

Reading:

A	-	0%
B	-	87.5%
B+	-	0%
C	-	12.5%
D	-	0%
Unknown	-	0%
Dropped		

Math:

A	-	37.5%
B	-	0%
B+	-	0%
C	-	0%
D	-	0%
Unknown	-	62.5%
Dropped		

POST (7)

Reading:

A	-	0%
B	-	43%
B+	-	14%
C	-	14%
D	-	0%
Unknown	-	29%
Dropped	-	1 of 8 14%

Math:

A	-	14%
B	-	29%
B+	-	43%
C	-	0%
D	-	0%
Unknown	-	14%
Dropped	-	1 of 8 14%

Note:

Student who dropped was promoted to white collar job.

WILKERSON

WINTER SESSION CASAS SCORES

English as a Second Language

Percentage at level:

PRE (8)

Reading:

A	-	0%
B	-	62.5%
B+	-	0%
C	-	0%
D	-	0%
Unknown	-	37.5%

Math:

A	-	0%
B	-	0%
B+	-	0%
C	-	0%
D	-	0%
Unknown	-	100%

POST (8)

Reading:

A	-	0%
B	-	62.5%
B+	-	12.5%
C	-	25%
D	-	0%
Unknown	-	0%

Math:

A	-	12.5%
B	-	62.5%
B+	-	25%
C	-	0%
D	-	0%
Unknown	-	0%

METRUM

WINTER SESSION CASAS COMPETENCIES

English as a Second Language

Percentage at level:

PRE (8)

Reading:

A	-	0%
B	-	87.5%
C	-	0%
C+	-	0%
D	-	0%
Unknown	-	12.5%
Dropped	-	0%

Math:

A	-	62.5%
B	-	0%
B+	-	0%
C	-	0%
D	-	0%
Unknown	-	37.5%
Dropped	-	0%

POST (3)

Reading:

A	-	0%
B	-	67%
C	-	0%
C+	-	33%
D	-	0%
Unknown	-	0%
Dropped	-	62.5%

5 out of 8

Math:

A	-	33.33%
B	-	33.33%
B+	-	33.33%
C	-	0%
D	-	0%
Unknown	-	0%
Dropped	-	62.5%

5 out of 8

NOTE:

Students who dropped were laid off from the company.

APPENDIX J

BEST TEST - ORAL

MARQUEST

SUMMER SESSION 1992

STUDENT NAME	PRE SCORE	PRE LEVEL	POST SCORE	POST LEVEL
	49	IV	50	IV+
	47	IV	49	IV
	37	III	49	IV
	40	III+	57	IV
	55	V	50	IV+
	41	IV	50	IV+
	50	IV+	53	V
	24	II	37	III
	40	III+	44	IV
	13	I+	36	III
	27	II+	37	III
	38	III	36	III
	N/A		47	IV

10 out of 12 (83%) Increased their scores.

RESULTS OF BEST PRE AND POST TESTING

SUMMER SESSION

MARQUEST English as a Second Language

Student Names	Pre Score	Post Score
	34 (III)	41 (IV)
	28 (III)	44 (IV)
	41 (IV)	50 (V)
	36 (III)	49 (IV)
	41 (IV)	61 (V)
	34 (III)	50 (IV)
	13 (I)	27 (II)
	7 (I)	15 (II)
	16 (II)	28 (III)
	20 (II)	31 (III)
	27 (V)	32 (VI)

* 10 out of 11 (91%) increased their scores.

APPENDIX J

RESULTS OF BEST PRE AND POST TESTING

SPRING SESSION

WILKERSON — English as a Second Language

Student Names	Pre Score	Post Score
	57 (V)	
	61 (V+)	
	44 (IV)	
	53 (V)	
	n/a	
	Native Speaker	
	n/a	
	Native Speaker	
	n/a	

NO % INCREASE

(No post-tests administered)

RESULTS OF BEST PRE AND POST TESTING

SPRING SESSION

METRUM **English as a Second Language**

Student Names	Pre Score	Post Score
	50 (IV)	57 (V)
	57 (V)	66 (VI
	64 (VI)	66 (VI)

100% Increase

Out of 3 students who completed both pre and post tests.

RESULTS OF BEST PRE AND POST TESTING

SPRING SESSION

MARQUEST English as a Second Language

Student Names	Pre Score	Post Score
	36 (III)	47 (IV)
	53 (V)	44 (IV)
	50 (IV+)	53 (V)
	41 (IV)	47 (IV)
	5 (I)	3 (I)
	n/a	n/a
	44 (IV)	47 (IV)
	16 (II)	18 (II)
	n/a	38 (III)

70% Increase

Out of 7 students that completed both pre and post tests.

RESULTS OF BEST PRE AND POST TESTING

SPRING SESSION

NORGREN

English as a Second Language

Student Names	Pre Score	Post Score
	66 (IV)	70 (VI+)
	na/	68 (VI+)
	50 (IV+)	64 (VI)
	74 (VII+)	n/a
	47 (IV)	n/a
	49 (IV)	57 (V)
	64 (VI)	n/a

100% Increase

(Out of 3 students who completed both pre and post tests)

APPENDIX J

RESULTS OF BEST PRE AND POST TESTING

WINTER SESSION

MARQUEST — English as a Second Language

Student Names	Pre Score	Post Score
	27 (II)	36 (III)
	40 (IV)	59 (VI)
	40 (IV)	50 (V)
	34 (IV-)	53 (V+)

100% Increase

RESULTS OF BEST PRE AND POST TESTING

WINTER SESSION

METRUM English as a Second Language

Student Names	Pre Score	Post Score
	34 (III)	50 (V-)
	77+ (VII)	77+ (VII)
	62 (VI)	64 (VII-)

67% Increase

(Post Tests on other students were unavailable)

RESULTS OF BEST PRE AND POST TESTING

WINTER SESSION

WILKERSON — English as a Second Language

Student Names	Pre Score	Post Score
	50 (V)	57 (V+)
	50 (V)	61 (VI)
	41 (III+)	44 (IV)
	62 (VI)	53 (V)

75% Increase

(Other tests were not available)

MEMORANDUM

TO: File

FROM: WEP staff

DATE: April 23, 1992

SUBJECT: BEST testing at Norgren

The assessment was not conducted for Norgren during the Winter Session.

PERSONAL JOB PROFILE

QUESTION SHEET

1. Understand abbreviations and symbols.
2. Understand written directions and instructions.
3. Understand charts, graphs, tables and forms.
4. Understand diagrams, drawings and blueprints.
5. Print legibly.
6. Use correct punctuation.
7. Write information on work forms.
8. Write common abbreviations.
9. Write information in a clear, logical and complete manner.
10. Write short notes and/or simple memos.
11. Use addition, subtraction, multiplication and division.
12. Use fractions.
13. Use decimals.
14. Use percents.
15. Calculate averages.
16. Change U.S. standard measurement to metric.
17. Estimate and round off numbers.
18. Understand Graphs.
19. Understand tools.
20. Recognize important ideas in directions and reports.
21. Organize time and prioritize responsibilities.

(OVER)

22. Use dictionaries, handbooks and manuals.

23. Follow spoken directions.

24. Ask for more information.

25. Ask questions.

26. Use and understand non-verbal communication.

27. Organize information into an oral report.

28. Use acceptable social skills at work.

29. Recognize ways to solve problems.

30. Solve problems and make decisions as a team member.

31. Solve interpersonal problems on the job.

32. Use English that is acceptable with supervisors and co-workers.

APPENDIX L

Company: _____ Name: _____ (OPTIONAL)

Instructor: _____ Date: _____

Workplace Education Program

Course Evaluation

Please let us know what you think about this course by rating the statements listed below. There is room after each statement and on the last page for any comments you might want to make. Thank you for your help!

	Strongly Agree 1	2	3	4	Strongly Disagree 5
1) This course is helping me in my job.	___	___	___	___	___
Comments:					
2) The instructor challenged me to think.	___	___	___	___	___
Comments:					
3) The instructor treated me with respect.	___	___	___	___	___
Comments:					
4) The instructor's explanations were clear.	___	___	___	___	___
Comments:					

	Strongly Agree				Strongly Disagree
	1	2	3	4	5
5) The course was well organized.	___	___	___	___	___
Comments:					
6) The class time was used well.	___	___	___	___	___
Comments:					
7) The course content was clear.	___	___	___	___	___
Comments:					
8) I know what to expect from the course.	___	___	___	___	___
Comments:					
9) I felt comfortable in the class.	___	___	___	___	___
Comments:					
10) Classes were the right length.	___	___	___	___	___
Comments:					

	Strongly Agree				Strongly Disagree
	1	2	3	4	5
11) Instruction was individualized to meet my needs.	___	___	___	___	___
12) The computers helped me learn.	___	___	___	___	___

Comments:

11) Comments:

12) Comments:

13) The most useful part of the course was: _____

14) The least useful part of the course was: _____

15) The best way to improve the course is to: _____

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16) Has this class made you interested in continuing your education? Please circle: GED ACC

Other college:_____

Vocational training

Other:_____

17) Additional Comments:_____

_____

_____

_____

18) Would you sign up for this class again?_____

APPENDIX M

WORKPLACE EDUCATION PROGRAM
STUDENT SURVEY

Company_____

Please answer the questions listed below. Everything you write will be kept strictly confidential. Your responses will help us to improve our program. Thank you for your help.

1.) Did you ever feel that you were <u>required</u> to participate in this program? That if you didn't sign up, you might lose your job?

2.) Are you enrolled in the classes completely voluntarily?

3.) Have you ever been discouraged from attending? By co-workers? By supervisors or managers? (Do <u>not</u> write names!)

4.) Did being put on the waiting list discourage you from wanting to participate in the classes?

5.) If you answered yes to #4, what would help keep you interested in attending classes?

APPENDIX N

WORKPLACE EDUCATION PROJECT

INTEREST INVENTORY

NAME_____COMPANY_____DATE_____

1) What can you do very well?

2) What 3 words describe you?

3) What do you do for fun?

---

4) What is important to you at home?

5) What is important to you at work?

---

6) What are your personal goals for the next year?

7) What are your goals at work for the next year?

---

8) What do you need to do to reach your goals in #6?

9) What do you need to do to reach your goals in #7?

APPENDIX O

WORKPLACE EDUCATION PROGRAM
ARAPAHOE COMMUNITY COLLEGE

INDIVIDUALIZED EDUCATION PROFILE

NAME: _____ DATE: _____

COMPANY: _____ POSITION:

INSTRUCTOR: _____ CLASS: _____

PERSONAL GOALS AND INTERESTS

Use the "Course Outline" to decide which skills you would like to develop during the next ten weeks. List the numbers of your choices for each area below.

Computers

Communication

Reading and Language

Computation

FOR OFFICE USE ONLY

For further information on personal goals and interests, refer to "Personal Job Profiles" and "Interest Inventories."

Instructor's notes: _____

_____

_____

_____

SKILL LEVELS

PART I: TEST ASSESSMENT SCORES:

		PRE / POST			PRE / POST
CASAS:	Reading	____/____	BEST:	Oral	____/____
CASAS:	Math	____/____	BEST LEVEL:		____/____

Note: Refer to CASAS Competencies List for instructional needs.

PART II: JOB-RELATED CUSTOM ASSESSMENT SCORES:

	PRE / POST		PRE / POST
COMPUTER:	_____/_____	COMMUNICATION:	_____/_____
WRITING:	_____/_____	COMPUTATION:	_____/_____
READING:	_____/_____		

RECOMMENDED INDIVIDUAL LEARNING ACTIVITIES

TEXTS: _____

_____

SOFTWARE: _____

_____

OTHER: _____

_____

1992 NATIONAL LITERACY PROJECT DIRECTORS' CLOSE-OUT CONFERENCE SURVEY

1. List two or three characteristics of a good evaluation plan:

   Inclusion of proven characteristics of successful programs

   Emphasis on formative evaluation

   Involvement of all individuals: learners, education staff, company management

   From your experience, what is the most important thing to avoid in designing an evaluation?

   Assuming you can draw a direct correlation between workplace education classes and changes in employee behavior.....without taking into account 1,001 other variables.

2. To what extent were qualitative and quantitative data respectively available for your workplace literacy evaluation?

   With the instrument designed by our external evaluator, both types of data were equally available. We also supplemented this instrument with standardized tests and personal job profiles for students that yielded quantitative results, and with course evalutions that yielded both quantitative and qualitative information. Supervisor surveys were also conducted that gave both types of data.

   To what extent was each valuable in deciding whether your project achieved its goals?

   Both were of equal value. The anecdotal data was essential in identifying unanticipated outcomes, such as changes in attitudes and motivations.

3. How were basic skills gains such as gains in math, reading, problem-solving, communications skills and team work measured? How was mastery of new skills assessed?

   CASAS pre and post tests were used to measure gains in math and reading. Problem-solving sessions at the end of each class were held to informally measure gains in problem-solving, communication, and team work skills. External evaluation surveys completed by both learners and supervisors also documented application of new skills in the workplace.

4. If included in your evaluation plan, how were work-based outcomes such as job retention, attendance, productivity and promotability measured? Were you able to determine a connection between improvements on these measures and participation in your workplace literacy program?

Staff is currently working with company liasons from Human Resources Departments to assess these outcomes. One company has already measured productivity and has determined that productivity has increased, despite time spent away from the job in training. All of us have been reluctant to ascribe a 100% direct connection between workplace improvements and the workplace literacy program. Corporate climate and culture are just too important to ignore. We do easily accept the premise, however, that the workplace education classes do affect corporate climate and facilitate change. Proof exists in anecdotal records.

What information, if any, was provided to the employer(s) to demonstrate cost-benefits of the program? How was this information derived?

Each company has worked within its own systems to determine improvements and cost-benefits, if any. Partners also received "Working Smarter" booklets from the National Alliance of Business, but we never followed up sufficiently to ensure their use.

5. If a part of your evaluation, how did you measure changes in self-esteem? Were you able to determine a connection between improvements on these measures and participation in your workplace literacy program?

(1) Students completed pre and post Personal Job Profiles that indicated self-perceptions of skill improvement; changes in self-esteem can be inferred from their responses. (2) Students also completed course evaluations that provided anecdotal information on self-esteem. (3) External evaluation surveys were completed by both students and supervisors that most clearly indicated changes in self-esteem. Although the connection between improvements in self-esteem and participation in our classes appears to be the easiest to "prove", we still take into account other changes that are taking place in these companies that also have an effect on employees and their behaviors and beliefs.

6. What methods were successful in protecting employee confidentiality with respect to initial competencies and skill improvements?

Each partner signed a confidentiality agreement which, among other policies, clearly states that no individual

testing results would be made available. Group profiles of student progress were provided to the partners instead. Students were made aware of the fact that whatever they did inside the walls of the classroom was held in strictest confidence; instructor behavior consistently supported this agreement.

What methods were successful in protecting employer confidentiality with respect to production and improvements in productivity?

In progress. Refer to first part of #6 and #4.

7. What are the most important characteristics to look for in hiring a third-party evaluator?

Formal training and experience in research and evaluation is first and foremost. Then, an understanding of our work is extraordinarily helpful.

8. What findings were included that could be explored further in an evaluation of the National Workplace Literacy Program's effectiveness?

As always, any attempts to more clearly connect changes and improvements with participation in workplace literacy programs would be helpful. Careful comparisons between behaviors of participants and company norms need to be made. Additionally, the effectivenes of computer-assisted learning should be examined in more depth.

It would be interesting to note the differences, if any, in the rate of change that takes place in companies that support worker education versus those that do not. Of course those companies that do not support it probably are not changing....

APPENDIX Q

PROGRAM PARTICIPANT COMMENTS

Since the introduction of WLS into the Wilkerson Corporation. I have seen the company undergo a unique and much desired transformation. A new spirit of willingness to cooperate and a desire to achieve has been awakened among our associates.

As a student, I found material being covered that I thought was long lost in my personal archives. I was challenged to bring this knowledge stored years ago back to life and in many instances, forced to ask questions over new subjects or subjects that had never been well seated throughout my basic education.

I think most importantly what I have discovered about myself is that I must continue to pursue a college degree to allow myself to merge into the business world. Jennifer Burkhardt, Jean Anderson and Mark Sullivan have instilled that desire within me and I thank them.

Looking at how my company has benefited from the program, it has been amazing to see people I would have assumed would scoff at continuing their education, take to and benefit from this program. I have seen reading, writing, and math skills awaken in people who thought they never could or would never need to use these skills. What many of us don't realize - particularly in the manufacturing industry, is that we tend to become comfortable at jobs that we have acquired with either a basic or even in some instances still, an incomplete basic education. As a result I believe we lose the desire to seek a higher level of education which today is essential in an ever changing work environment. I know of one associate that hadn't completed high school and is now, as a result of WLS, actively seeking a GED. I have immense respect for this person and any person who would be brave enough to step forward and ask for assistance in bettering themselves. I have found as a tutor with WLS, our instructors are indeed discreet and professional and extremely encouraging. This allows a feeling of trust to develope and, ultimately, with our instructors coaching, a desire to excel and succeed.

The communication skills that are developed with this course are another area I find noteworthy. Not only are people from other departments brought together for the first time to work together but our associates whose native language is not English are able to receive proper education in the English language, which I see alleviating their insecurities. I commend Mark in his efforts to illustrate and familiarize our non native associates with the English language. He has developed an excellent rapport with his students.

I think essentially, with involvement in WLS, we find our sometimes dormant thought process reawakened, allowing new ideas

to emerge and also the ability within ourselves to initialize these ideas be they ideas on the manufacturing process or, as I have experienced, some profound problem solving techniques that I have been able to implement as a result of teamwork with my associates.

Jean, Jennifer and Mark, I thank you for your commitment and efforts and look forward to continuing our combined efforts to bettering the lives of our associates.

MY/jw
MY011092

APPENDIX R

NORGREN

September 22, 1992

Jean E. Anderson
Workplace Education Program
Arapahoe Community College
2500 West College Drive
P.O. Box 9002
Littleton, CO 80160-9002

Dear Ms. Anderson:

I would like to express my appreciation of the effects the BUILD project has had on NORGREN's shop employees.

I have witnessed improvements in self confidence, motivation, and job satisfaction in many students involved in the classes. One person told me that he can finally take the test for the GED. He had dropped out of school at a young age and was grateful to be given a second chance. Another person was attending the classes on a scheduled day off. Several people are questioning outdated procedures, something that lack of self-confidence never would have allowed them to do before. All have become a valuable asset to NORGREN.

As a quality assurance analyst, I work with production employees on a regular basis. Part of my job is motivating employees to improve quality and solve problems permanently. It is a pleasure working with employees from the grant classes as they take an active approach to finding solutions. I attribute most of this to the heightened self-confidence which comes from improving oneself through education.

The classes have also motivated people who are not in the program. I know of two individuals who are registering for college classes because NORGREN has placed such an emphasis on education.

One of the goals of the grant program was to create an enthusiasm for learning. The BUILD program has achieved this goal. Thank you for helping NORGREN to realize a positive change.

Sincerely,

Kristin Mallinson

Kristin Mallinson
Quality Assurance Analyst

The Worldwide Gold Standard In Pneumatic Products IMI

NORGREN • 5400 South Delaware • Littleton, Colorado 80120-1663 • (303) 794-2611 • FAX (303) 795-9487

APPENDIX S

WILKERSON CORPORATION

P.O. BOX 1237 • ENGLEWOOD, COLORADO 80150

Dr. James F. Weber
President, Arapahoe Community College
P.O. Box 9002
Littleton CO 80160

December 16, 1992

Dear Dr. Weber,

As you are well aware this is the final month of the Workplace Education Program. Developed under your aegis, the Workplace Education Project, has been a most successful enterprise. It has been a significant stimulus and contributor to the education of many of our employees. The training was well conceived, professionally delivered and enthusiastically received. Your and The College's contributions in making this project possible are greatly appreciated.

There, additionally, needs to be a special note made of the creative and professional contributions made by Jean Anderson, Jennifer Burkhardt and Mark Sullivan. Jean, as the Coordinator, has been the driving spirit behind the success of the program. She has brought great organizational and administrative skills to the effort, ultimately insuring that success not only was probable but that it would happen with elan. Jennifer and Mark have been the root and soul of the planning and classroom instruction. Our students responded to their leadership with enthusiasm and accomplishment. It has been a joy and a rewarding experience having these three fine people to work with.

Again, the support of Arapahoe Community College and specifically the Workplace Education Team are greatly appreciated.

Sincerely,

Dick Angelo

Richard J. Angelo
President

PHONE (303) 761-7601 • TELEX 5106003866 • FAX (303) 781-8462